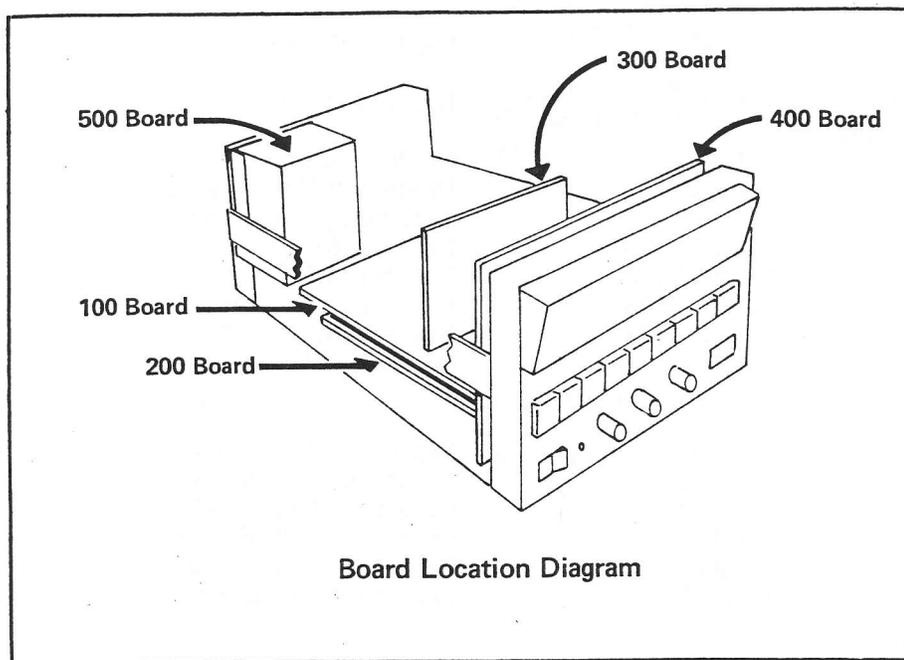


FC51

1GHz Frequency Counter

SCHEMATIC AND PARTS LIST WITH "SIGNAL-TRACER" CODING



SENCORE

3200 SENCORE DRIVE, SIOUX FALLS, SOUTH DAKOTA 57107 • (605) 339-0100

MAIN BOARD		BOARD 100	
SCHEMATIC REFERENCE	PART NO.	DESCRIPTION	PRICE
IC1, 2	69G23	IC, 14553	8.25
IC3, 4	69G41	IC, 74LS75	1.25
IC5	69G42	IC, 74LS90	1.25
IC6	69G54	IC, 74S196	4.25
IC7	69G8	IC, 4013	1.00
IC8	69G40	IC, 10211	3.75
IC9	69G39	IC, 10216	3.25
IC10	69G33	IC, 74500	1.00
IC11	69G13	IC, LM324	3.25
TR1, 2, 3, 4, 5, 6, 7, 11, 14, 15	19A33-1	Transistor, 2N3904	.50
TR8, 9	19A45	Transistor, 2N5771	1.00
TR10	19A39	Transistor, MJE200	2.25
TR12	19A40	Transistor, 2N4403	.75
TR13	19A29	Transistor, MJE180	1.25
CR1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 31, 32, 33, 34	50C5-2	Diode, 1N4148	.25
CR17, 19, 20, 25, 26, 27, 28, 29	16G10	Diode, 1 Amp	.50
CR18, 21, 22, 23, 24	16G14	Diode, 3 Amp	.50
CR30	50C4-2	Diode, 8.2 Volt zener 5%	.75
SW1	25A271	Switches, pushbutton	10.75
R58	14C29-6003	Resistor, 6K, ½W., 1%	.75
R59	14C29-3903	Resistor, 3.9K, ½W., 1%	.75
R62	14C29-1803	Resistor, 1.8K, ½W., 1%	.75
R63	14C29-8203	Resistor, 8.2K, ½W., 1%	.75
R70	15C7-2	Control, 10K, carbon linear	1.25
C1, 2, 3, 7, 13, 14, 15, 16, 17, 18, 21	24G207	Capacitor, .01uF Disc	.25
C4, 5	24G123	Capacitor, 720pF Disc	.25
C6, 8	24G333	Capacitor, 10uF TANT	.50
C9, 19	24G118	Capacitor, 100uF Lytic	.50
C10, 12, 20	24G120	Capacitor, 10uF Lytic	.25
C11	24G190	Capacitor, 2uF Lytic	.25
INPUT BOARD		BOARD 200	
SCHEMATIC REFERENCE	PART NO.	DESCRIPTION	PRICE
IC1	69G32	IC, 4046	2.25
IC2	69G11	IC, 4016	1.25
IC3	69G46	IC, TL084	5.25
IC4	69G7	IC, 4001	.75
IC5	69G36	IC, 4518	2.50
IC6	69G34	IC, 10114	1.75
IC7	69G49	IC, GPD402	26.00
IC8	69G48	IC, 8665	60.00
IC9	69G39	IC, 10216	3.25
TR1, 5, 6	19A33-1	Transistor, 2N3904	.50
TR2, 4	19A19	Transistor, MPF102	.75
TR3	19A7-1	Transistor, 2N3563	.50
CR1, 4, 5	50C5-2	Diode, 1N4148	.25
CR2, 3, 6	50A14	Diode, MBD502	2.25
R1, 2	14C29-1005	Resistor, 100K, ½W., 1%	.75
R8	14C29-1006	Resistor, 1M, ½W., 1%	.75

INPUT BOARD

BOARD 200

R13, 14	14C29-2006	Resistor, 2M, ½W., 1%	1.00
R27, 50	15C7-17	Control, 1K, carbon linear	1.25
R72	15C7-7	Control, 5M, carbon linear	1.25
L1	46G72	Inductor, 680uH	.50
L2	46G9	Inductor, 10MH	1.25
C1, 9, 12, 14, 17, 19, 21, 23, 26, 28, 33, 37, 40, 50, 51, 52, 54, 55	24G207	Capacitor, .01uF Disc	.25
C2, 5	24G334	Capacitor, 2.2uF TANT	.50
C3	24G279	Capacitor, 470pF Polycap	.25
C4	24G345	Capacitor, 220pF Polycap	.25
C6, 8	24G104	Capacitor, .1uF Disc	.50
C7	24G22	Capacitor, 330pF Disc	.25
C10, 16	24G212	Capacitor, .047uF Mylar	.25
C11, 30, 35, 36	24G15	Capacitor, 100pF Disc	.25
C13, 15, 18, 20, 22, 24, 34, 38, 41, 53	24G333	Capacitor, 10uF TANT	.50
C25	24G77	Capacitor, 20pF Disc	.25
C27	24G154	Capacitor, 6pF Disc	.25
C29	24G86	Capacitor, 10pF Disc	.25
C31, 39	24G17	Capacitor, 1000pF Disc	.25
C32	24G368	Capacitor, 1000pF Ceramic	5.00
F1, 2, 3	44G21	Fuse, 1/8 Amp	1.25

TIMEBASE BOARD

BOARD 300

SCHEMATIC REFERENCE	PART NO.	DESCRIPTION	PRICE
IC1, 2	69G31	IC, 74LS74	1.25
IC3	69G37	IC, 74LS00	.50
IC4, 7, 8	69542	IC, 74LS90	1.25
IC5, 6	69G36	IC, 4518	2.50
TR1, 2, 3	19A33-1	Transistor, 2N3904	.50
CR1	50C5-2	Diode, 1N4148	.25
C1	24G196	Capacitor, 2uF Lytic	.25
C2, 3, 4, 6	24G207	Capacitor, .01 Disc	.25
C5	24G15	Capacitor, 100pF Disc	.25
C7	24G17	Capacitor, .001 Disc	.25

DISPLAY BOARD

BOARD 400

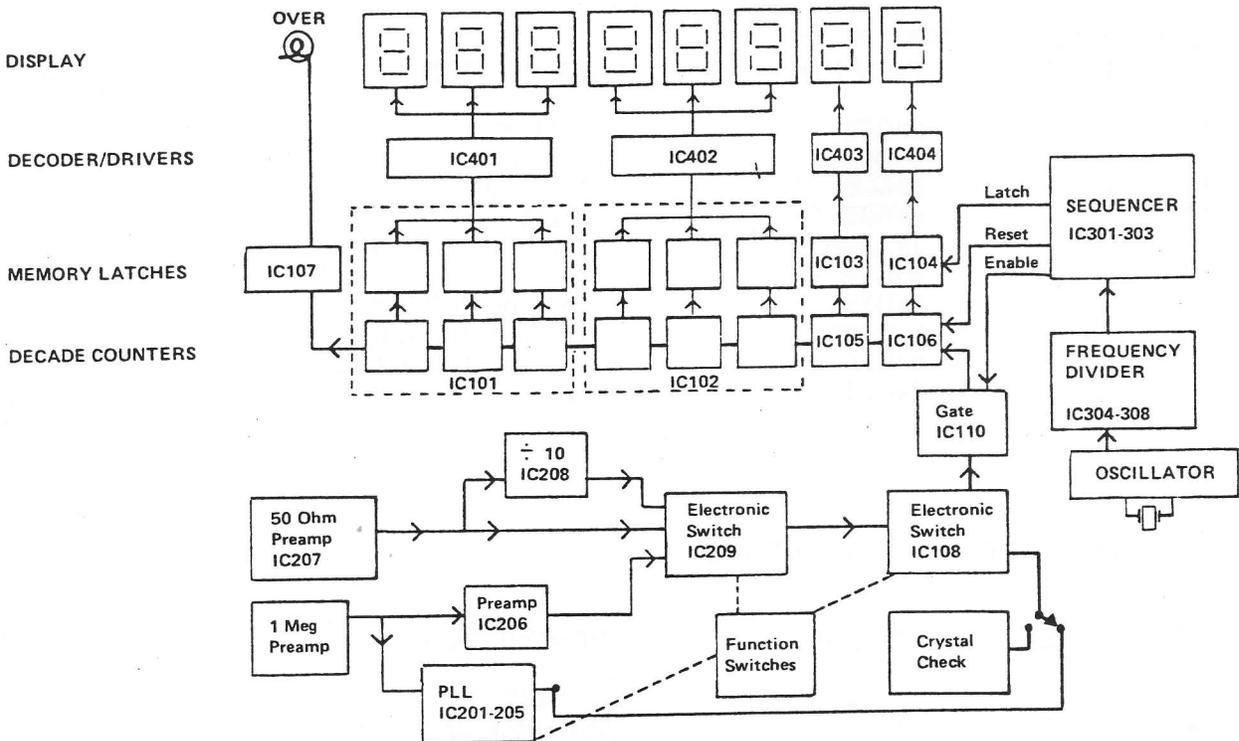
SCHEMATIC REFERENCE	PART NO.	DESCRIPTION	PRICE
IC1, 2, 3, 4	69G35	IC, 7447	2.00
IR1, 2, 3, 4, 5, 6	19A40	Transistor, 2N4403	.75
TR7	19A33-1	Transistor, 2N3904	.50
D1, 2, 3, 4, 5, 6, 7, 8	23G63	LED display	2.25
I1, 2, 3	20G15	10ES, bulb	1.00

continued

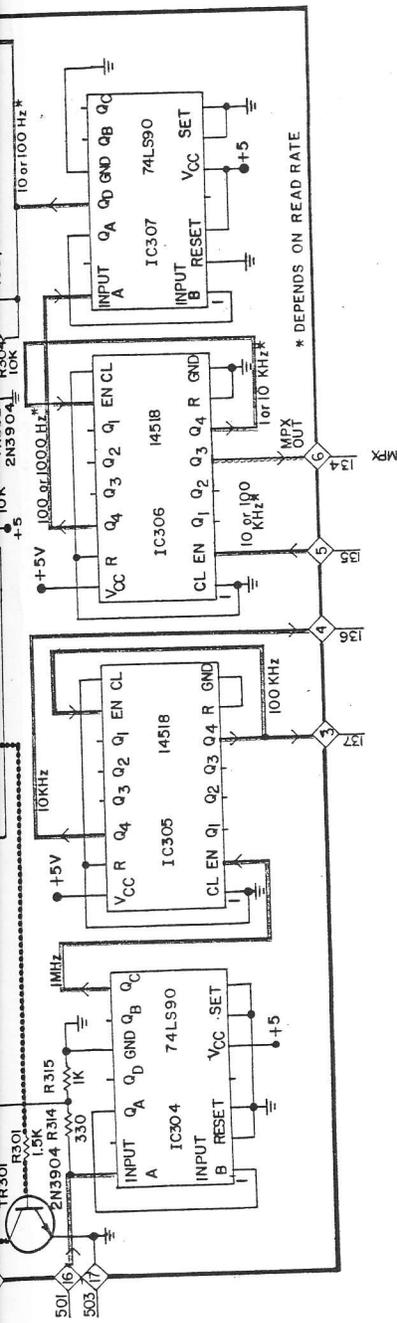
OSCILLATOR BOARD BOARD 500

SCHEMATIC REFERENCE	PART NO.	DESCRIPTION	PRICE
IC1	69G21	IC, CA3130	3.00
IC2	69G55	IC, LM375	12.00
IC3	69G52	IC, AD590K	20.00
TR1	19A33-1	Transistor, 2N3904	.50
TR2	19A29	Transistor, MJE180	1.50
CR1	50C12-1	Diode, 1N823	1.75
R2	14C29-1875	Resistor, 187K, 1/2W., 1%	.75
R3	15A19-4	Control, 100K, Ceramic	2.75
R4	14C29-2335	Resistor, 233K, 1/2W., 1%	.75
R6	14C29-1004	Resistor, 10K, 1/2W., 1%	.75
Y1	47A24-SEL2	10 MHz crystal	25.00
L1	46G72	Inductor, 680uH	.50
C1	24G90	Capacitor, 68pF Disc	.25
C2, 4, 5, 10, 12, 14	24G207	Capacitor, .01uF	.25
C3	24G72	Capacitor, 4pF Disc	.25
C6	24G162	Capacitor, 62pF Disc	.25
C7	24G157	Capacitor, 25pF Disc	.25
C8	24G153	Factory selected to match crystal	
	24G86	5pF	.25
	24G85	10pF	.25
	24G85	15pF	.25
C9	24K369	Trimmer, 1-6pF	.75
C11, 16	24G333	Capacitor, 10uF TANT	.50
C13	24G334	Capacitor, 2uF TANT	.50

FC51 Block Diagram

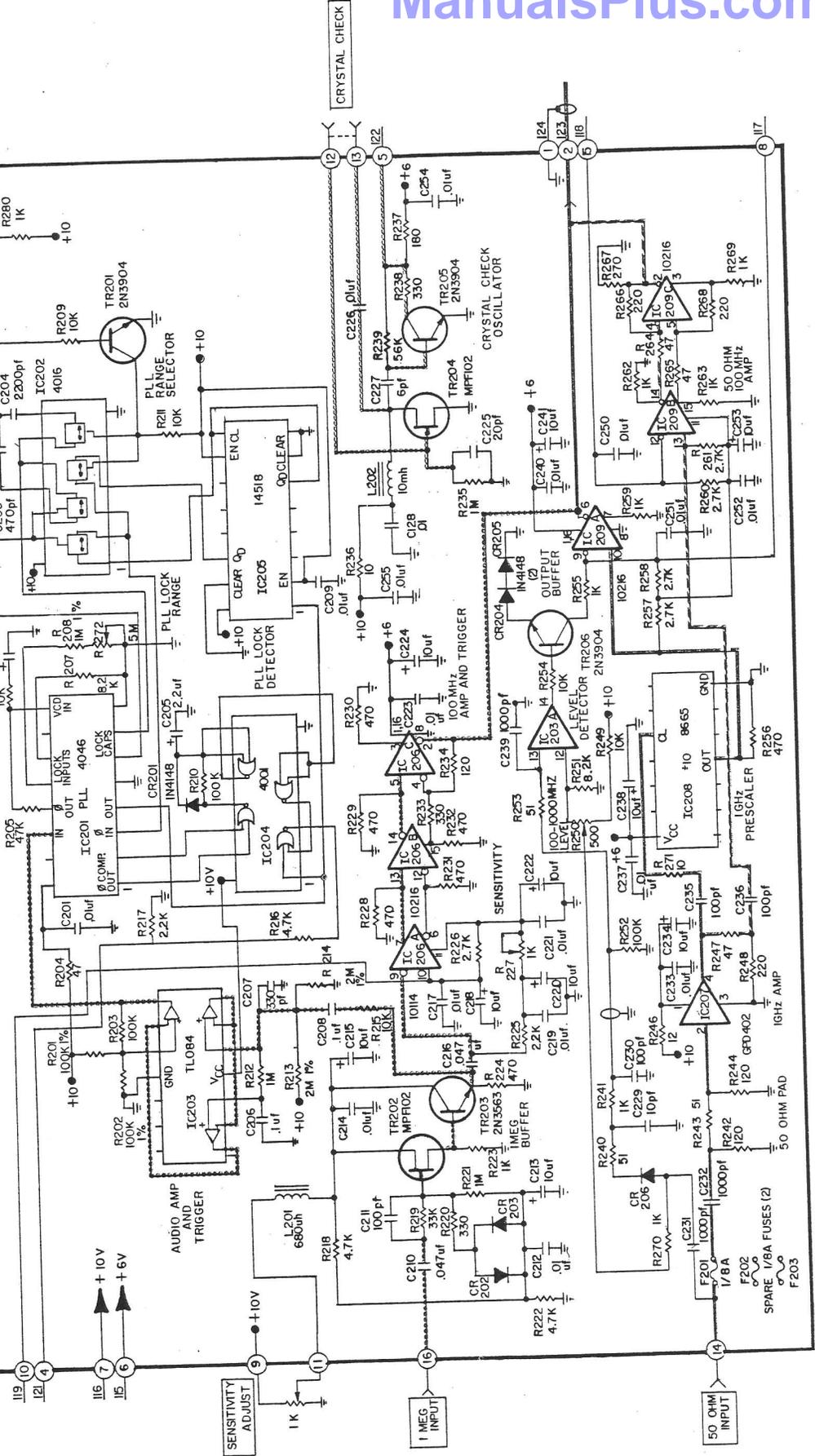


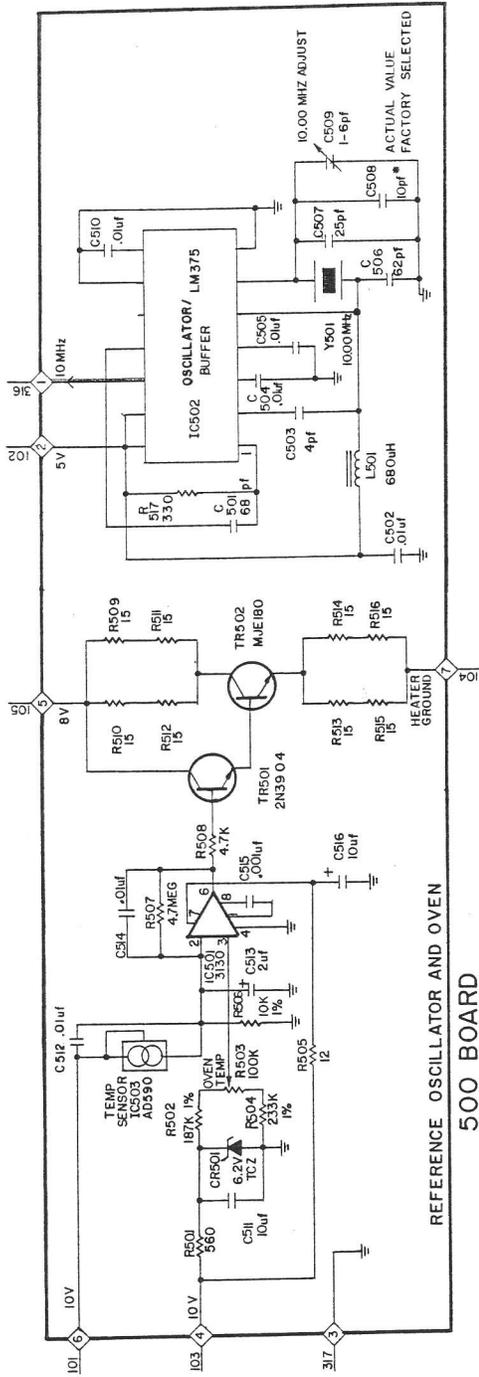
Components not listed are standard replacement parts and may be purchased locally. When ordering parts, please specify instrument model number, schematic reference, part number, and description. Please include remittance (check or money order) with your order, otherwise invoice will be shipped C.O.D. Minimum billing is \$3.00. Prices and specifications in effect at date of printing and are subject to change without notice.



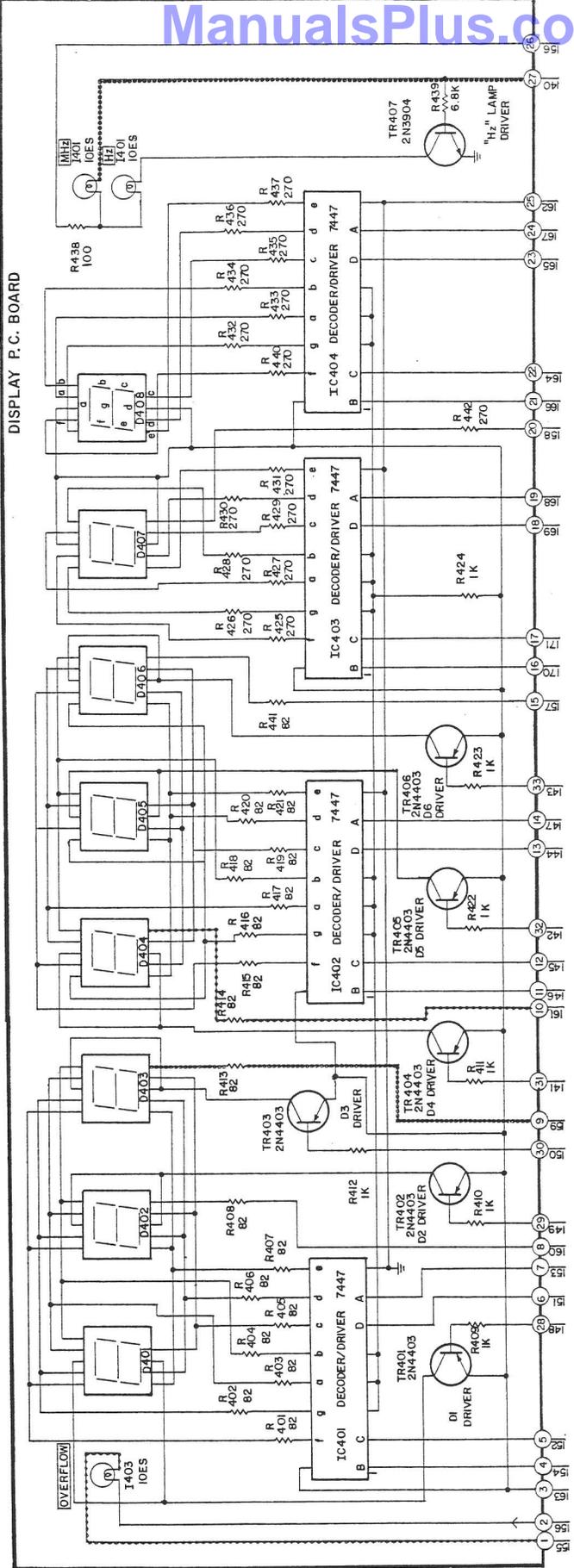
200 BOARD

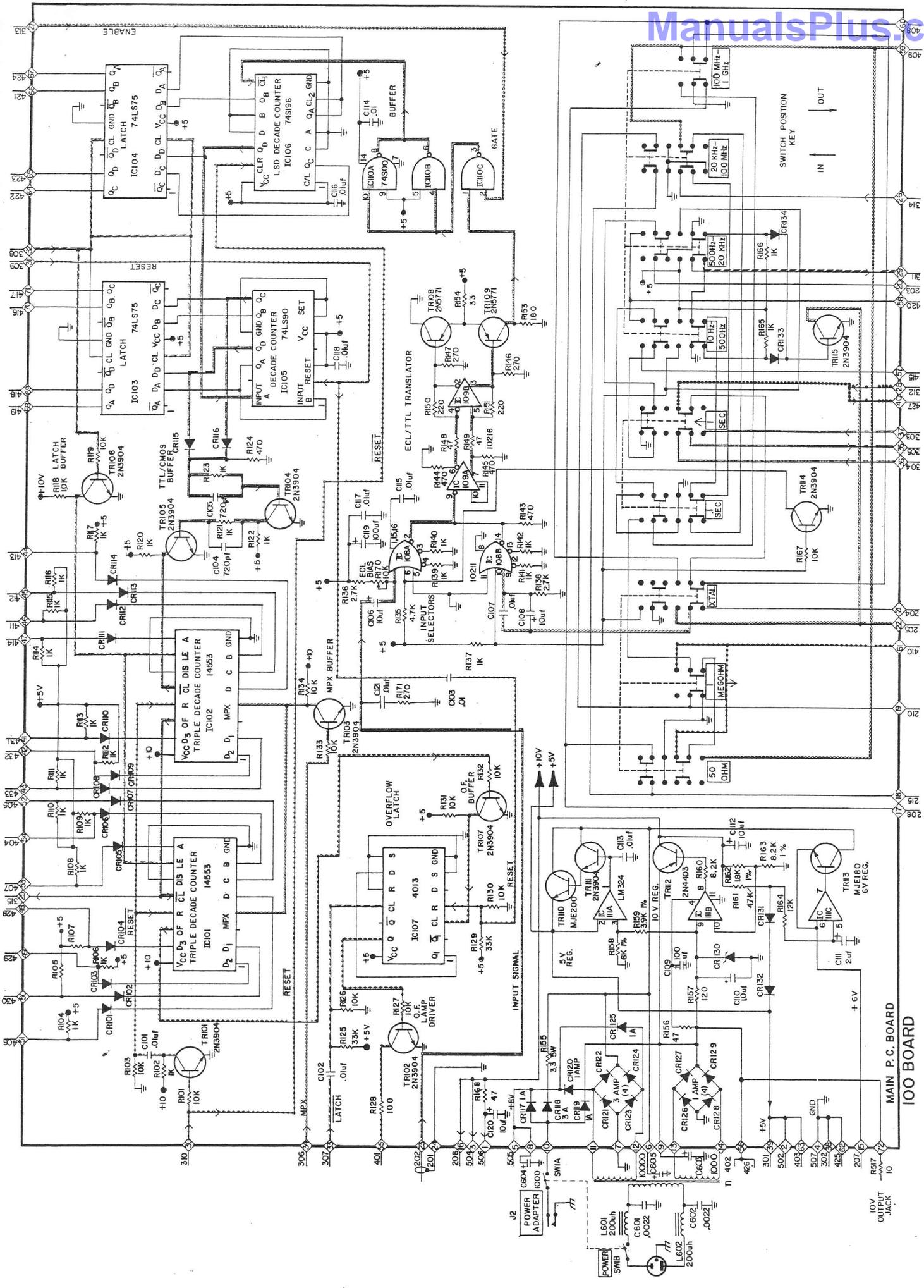
INPUT CIRCUITS





400 BOARD
DISPLAY P.C. BOARD





MAIN P.C. BOARD
100 BOARD

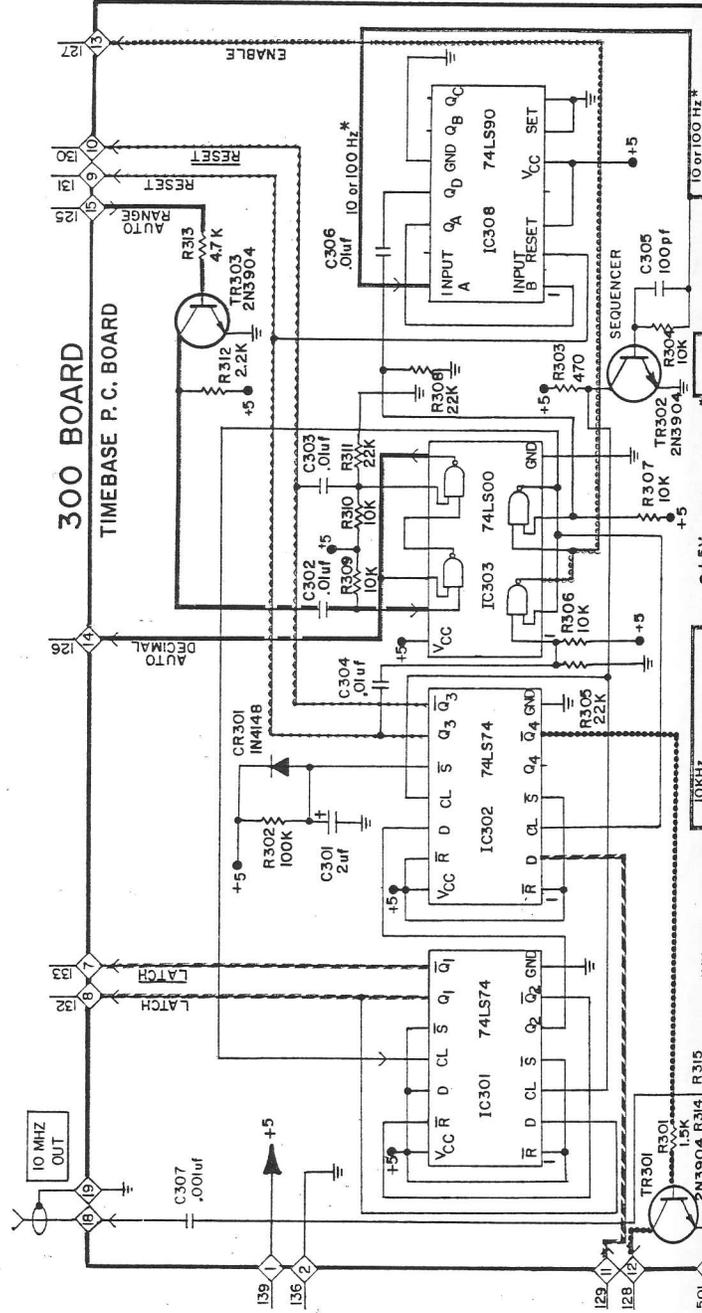
10V
OUTPUT
JACK

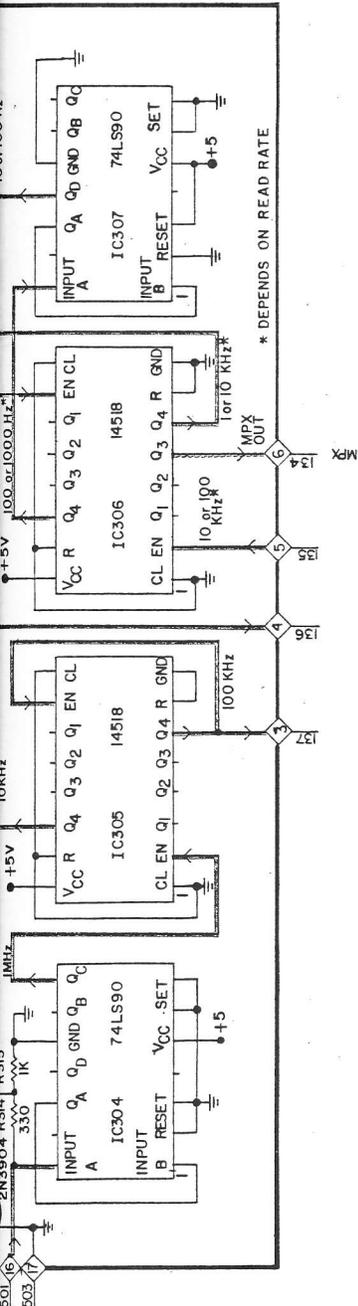
NOTES:

1. All resistances shown in ohms.
2. All capacitors are as specified.
3. First number of interconnects shows board number, second and third show terminal number. Example: 121 goes to 100 board, terminal 21.
4. Denotes front panel control name.

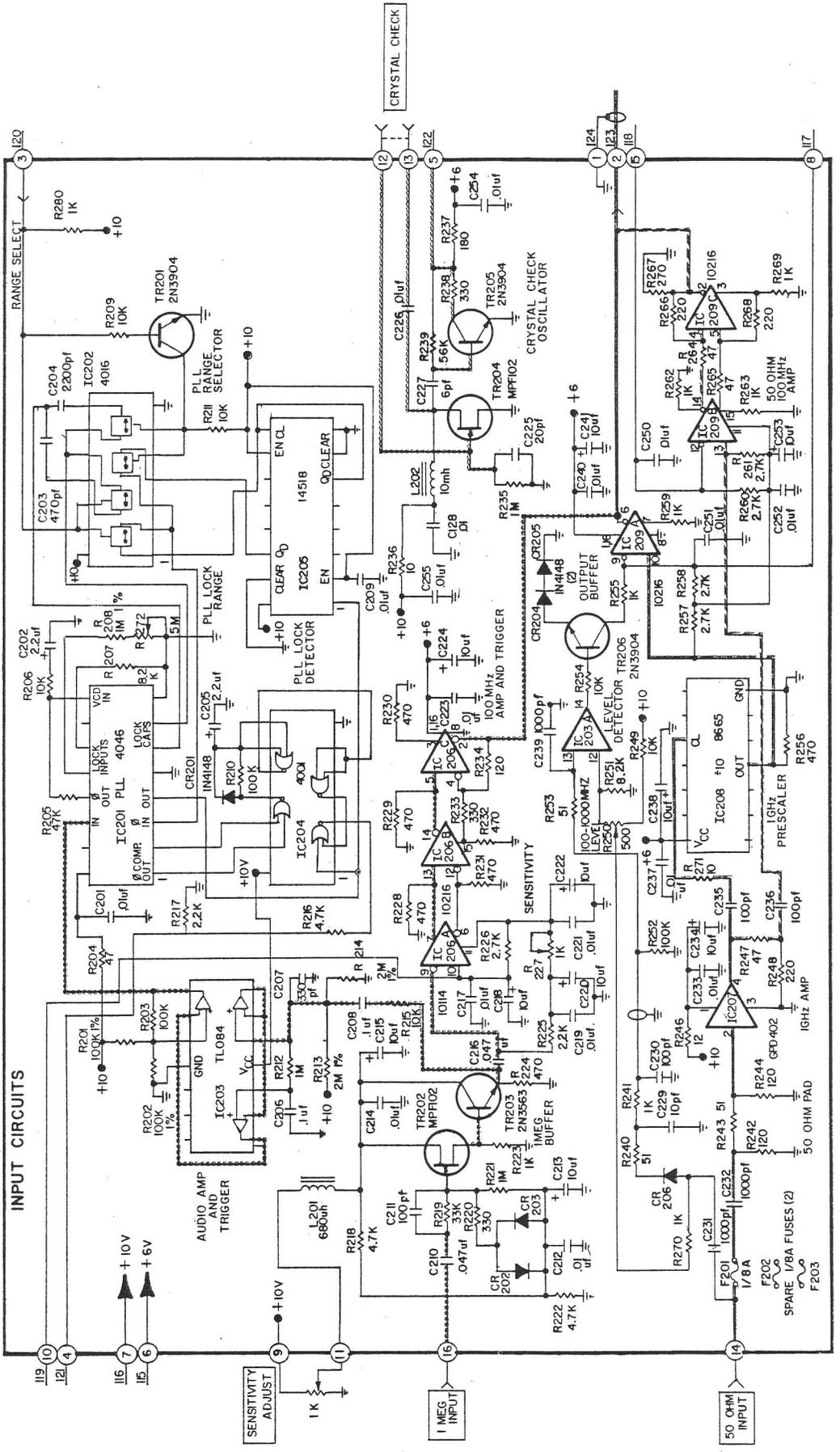
Color Legend

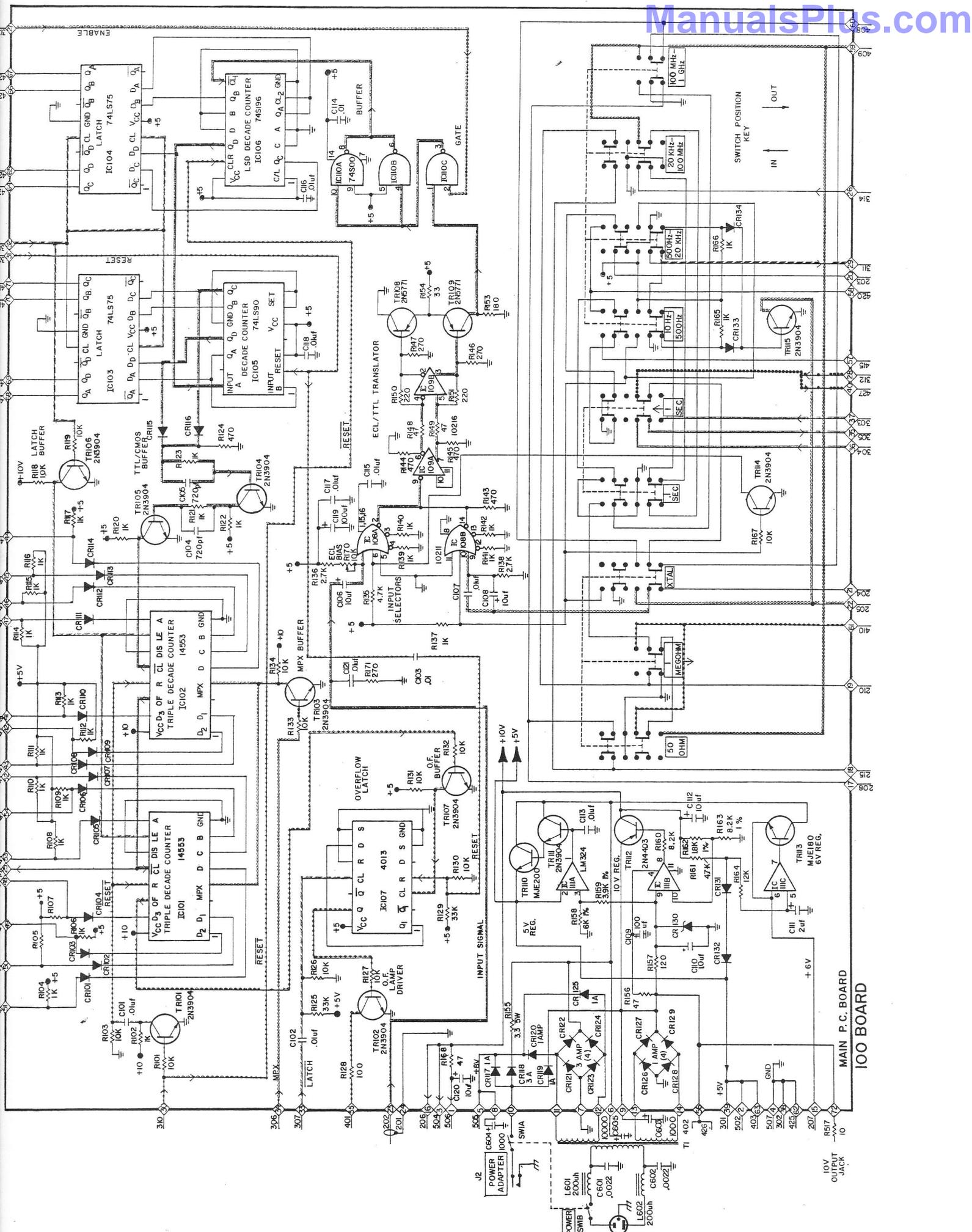
- Power Supply Connections ●
- Frequency Signals
- Main Signal Path (50 Ohm Input)
- 10:1 Prescaled (50 Ohm Input)
- Main Signal Path (1 Meg Input)
- Crystal Check
- Overflow
- Timebase Signal
- Divided Clock
- Enable
- Latch & Latch Reset & Reset
- Multiplex
- Decimal Control
- Auto Decimal Control
- Auto Decimal Output
- Auto Decimal Enable
- 100 MHz Control
- 0100 MHz Control





200 BOARD
INPUT CIRCUITS





MAIN P.C. BOARD

10V OUTPUT JACK

5V REG.

10V REG.

10V REG.

5V REG.

10V REG.

5V REG.

10V REG.

5V REG.

10V REG.

5V REG.

